

What is claimed is:

1. A deflection yoke used for a cathode ray tube (CRT) including a glass tube having a screen surface and a straight portion for accommodating an electron gun, said deflection yoke comprising:

5           a main deflection yoke including

              first and second horizontal deflecting coils having substantially saddle shapes and including first and second coil-connection-wire sections and first and second horizontal deflection sections, respectively, said first and second coil-connection-wire sections being wound in a direction perpendicular to a tube axis of said CRT and along said straight portion, respectively, said first and second horizontal deflection sections being located towards said screen surface from said first and said second coil-connection-wire sections, respectively, and

              first and second vertical deflecting coils; and

15           a sub-deflection yoke provided at a side of said main deflection yoke towards said electron gun of said CRT.

2. The deflection yoke of claim 1, wherein said coil-connection-wire sections are piled up about an axis perpendicular to said tube axis in a direction parallel with said tube axis and along said straight portion.

3. The deflection yoke of claim 1,

              wherein said first and said second vertical deflecting coils are located outside said first and said second horizontal deflecting coils,

25           wherein a diameter of curved surfaces of said first and said second horizontal deflection sections facing said first and second vertical deflecting coils on a first plane where said first and second horizontal deflecting coils

face each other is identical to a diameter of said horizontal deflection sections on a second plane perpendicular to said first plane and said tube axis, and

wherein a diameter of said first and second coil-connection-wire sections ranges from 1.05 to 1.35 times said diameter of said first and second  
5 horizontal deflection sections.

4. The deflection yoke of claim 3, further comprising

an insulating frame disposed between said first and second horizontal deflecting coil side and said first and second vertical deflecting coil  
10 side,

wherein diameters of curved surfaces of said first and second vertical deflecting coils facing said CRT on a third plane where said first and second vertical deflecting coils face each other become smaller toward said electron gun from said screen surface and become larger at sides of said first  
15 and second vertical deflecting coils towards said electron gun, and said sides of said first and second vertical deflecting coils are combined with said first and second coil-connection-wire sections.

5. The deflection yoke of claim 1, further comprising a ferrite core  
20 mounted to said main deflection yoke, said ferrite core having a uniform inner diameter over an entire length of said ferrite core.

6. The deflection yoke of claim 1,

wherein said horizontal deflecting coils have lead wires, and  
25 wherein said insulating frame has a cartridge portion parallel to said tube axis arranged to have said lead wire pass through said cartridge portion, said insulating frame having a recess formed therein for having said

lead wire pass through said recess, and

wherein said lead wire is led from said recess into said cartridge portion.

5        7. The deflection yoke of claim 1, further comprising a centering magnet provided in a direction towards said electron gun from said sub-deflecting coil, said centering magnet having a substantially-circular shape and including first and second knob portions at a periphery.

10       8. The deflection yoke of claim 7, wherein said centering magnet has a port for injection molding provided at an end of said first knob portion.

15       9. The deflection yoke of claim 8, wherein an end portion of said second knob portion is cut off after molding executed by applying resin mixed with magnetic material into said port.

20       10. The deflection yoke of claim 8, wherein said end of said first knob portion is cut off after molding executed by applying resin mixed with magnetic material into said port.

25       11. A method of manufacturing a centering magnet including first and second knob portions at a periphery and having a substantially- circular shape, said method comprising:

forming a molded body by applying resin mixed with magnetic material into a port for injection molding, the port is provided at an end of the first knob portion;

cutting off an end of the second knob portion; and

magnetizing the molded body.

12. The method of claim 11, further comprising cutting off the end of the first knob portion.